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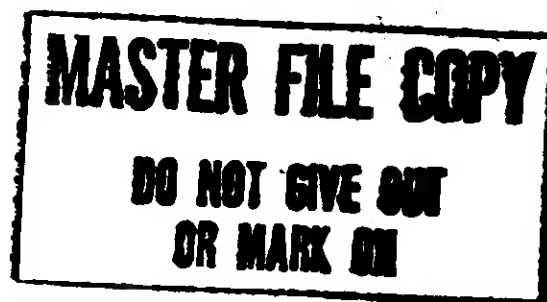
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**National Intelligence Estimate**


## **Soviet Space Programs**

**Key Judgments**



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*NIE 11-1-85W  
December 1985*

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THE NATIONAL FOREIGN INTELLIGENCE BOARD CONCURS.

*The following intelligence organizations participated in the preparation of the Estimate:*

The Central Intelligence Agency, the Defense Intelligence Agency, the National Security Agency, and the intelligence organization of the Department of State.

*Also Participating:*

The Assistant Chief of Staff for Intelligence, Department of the Army

The Director of Naval Intelligence, Department of the Navy

The Assistant Chief of Staff, Intelligence, Department of the Air Force

The Director of Intelligence, Headquarters, Marine Corps

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**NIE 11-1-85W**

**SOVIET SPACE PROGRAMS**

**KEY JUDGMENTS**

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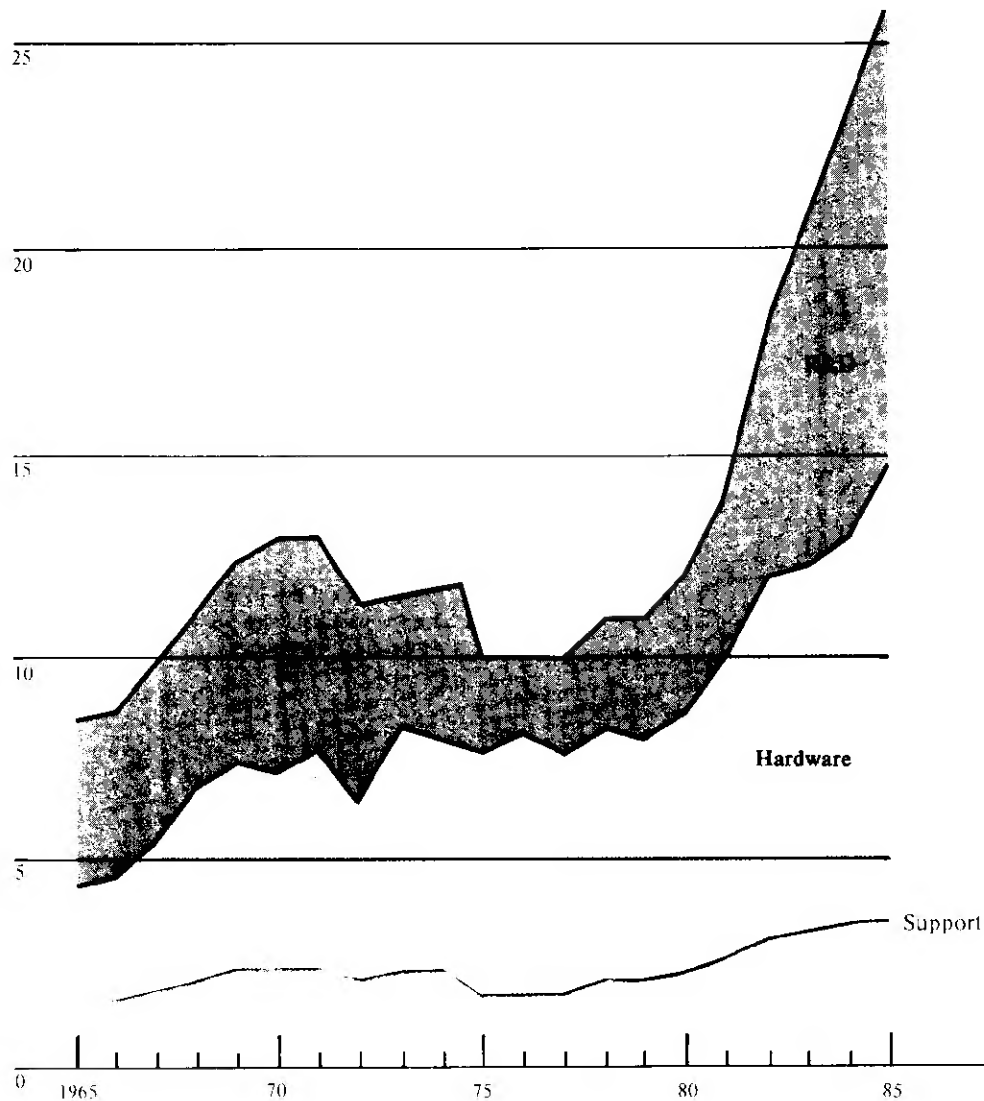
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## Soviet Space Expenditures, 1965-85

Billion 1983 US \$

30



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## KEY JUDGMENTS

A continuing trend toward the increasing use of space assets by Soviet military forces is clearly foreshadowed by the large investments in space systems R&D of the past few years. We can expect to see the payoff by the early 1990s in terms of expanded access to space for performance of a variety of missions. In the long term, space systems would probably be an integral part of any advanced-technology strategic defense system the Soviets might develop and deploy, and we expect antisatellite (ASAT) capabilities—improved by then—to be a critical aspect of Soviet efforts to counter any space-based elements of a potential future US strategic defense.

Ultimately, it is the sheer size and breadth of the Soviets' space effort that gives them their greatest potential in the competition for leadership in space. The magnitude of the effort compensates for much of the inefficiency and technological deficiency that characterizes many individual Soviet programs. Furthermore, we cannot clearly account for all of the Soviet space support facilities in existence and under construction—design bureaus, production facilities, launchpads, and control facilities—with known programs. Although some or even all of this additional capacity may be designated for relatively "benign" programs that we have not been able to detect, the possibility remains that developments of a more ominous nature await us, such as the eventual deployment of weapons in space. Another possibility is that more of the older facilities and launch vehicles will be phased out than we have projected. Finally, it appears that the Soviets are providing themselves with the necessary support structure to ensure that they will be well positioned to make timely deployments of space systems based on any major breakthrough in one or more areas in which we know they are working—antissubmarine warfare (ASW), ASAT, or ballistic missile defense (BMD) technologies, for example.

We estimate that in 1985 the costs of Soviet space programs are about \$26 billion. Between 1980 and 1983, space costs nearly doubled, largely because of the costs associated with the development of the heavy-lift launch vehicle. Since then, space programs have continued to expand at a rate of nearly 10 percent annually (see chart). This level of investment is equivalent to about 1.5 percent of the Soviet gross national product. The costs of military space activities alone are about the same as those for strategic offensive forces. Since 1980, manned space programs have accounted for the bulk of increased expenditures and now amount to about one-fourth of the total costs of Soviet space efforts.

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The Soviets are making extensive use of man in space for performing research on critical military problems [REDACTED]

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[REDACTED] We expect the largest increases to be noted in manned activities and communications programs over the next five years.

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The Soviets currently have a dedicated antisatellite interceptor and several other potential means to conduct ASAT operations. The orbital interceptor system presents a significant threat to all low-altitude US intelligence and military support satellites but its effectiveness is limited by operational considerations and reliability. The Soviets' overall ASAT capabilities are somewhat limited, especially against satellites at higher altitudes. We expect the Soviets to make significant improvements in their ASAT capabilities, particularly in the area of directed-energy technologies.

The Soviets use their space assets today principally to perform traditional military support missions of communications, targeting, reconnaissance and surveillance, navigation, meteorology, and geodesy; militarily, these functions will remain the most important space activities in the near term, and most of the future developments we project are extensions of these basic military support missions. In addition, the Soviet space effort supports civilian-oriented functions, such as telecommunications, remote sensing for agricultural and resource development, and scientific research.

The military importance of Soviet space assets has increased greatly in the past 10 years, and the Soviets increasingly value these assets for support of military operations in a crisis or conflict, especially for reconnaissance and targeting, communications, and navigation. We judge that, although the USSR is not at present overly dependent on space systems for the effective conduct of military operations, satellites become more important to the Soviets as the level of conflict increases. In addition, as more near-real-time monitoring capabilities are introduced (including manned platforms), we expect that Soviet space systems will become increasingly important in providing information on rapidly developing situations to both national-level decisionmakers and military commanders.

Soviet efforts to acquire space technology will increase in the face of intensified military-technological competition with the United States. The proliferation of commercial space capabilities among the Western allies and the establishment of cooperative space programs will widen the available targets for Soviet access. Through such efforts, a vast amount of valuable space-related technology already has been and continues to be obtained directly from US sources and US allies in Western Europe and Japan. Critically sought-after missile and space technologies include those related to development of space-based laser and other directed-energy weapons and antimissile defense systems.

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Open source publications, particularly NASA documents and NASA-funded contractor studies, constitute the largest and most important source of US space technology.

The scope and direction of the Soviet space effort, the extensive efforts to acquire Western space technology, and the military nature of Soviet manned space experiments are ultimately disquieting. Although we judge that overall the Soviets remain at a significant technological disadvantage relative to the United States in space, we are concerned about the possibility that they may be heading toward a major military advance. Our concern stems primarily from the considerable uncertainties we face in several key areas: the Soviet efforts in advanced weapon technologies, the purpose of the Soviet use of man in space, and the great increase in the infrastructure the Soviets are providing for space system operations. Their efforts in these areas could lead to important military advantages.

*The foregoing information is Secret*

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